

### REMARKS

Prior to entry of the amendments set forth above, Claims 1-31 were pending, including independent Claims 1, 12, 21, 22 and 26. Claims 1-2 and 4-31 stand rejected, and Claim 3 stands objected to. After entry of the amendment, Claims 1-31 will remain pending, including independent Claims 1, 12, 21, 22 and 26.

#### *Amendment*

No new matter is added by the present amendment. The amendments merely address informalities identified by the Examiner's objections to Claims 12, 21 and 22, and do not change the scope of any claim. As such, these amendments are fully supported by previous versions of the same-numbered claims.

#### Response to Rejections

In section 7 of the current Office Action, the Examiner rejects Claims 1, 2 and 4-31 as obvious over US Patent 5,999,816 ("Tiedemann") in view of US Patent 6,181,738 ("Chheda"). These grounds for rejection are respectfully traversed for at least the following ample reasons, with other reasons for traversal being withheld as cumulative: (1) Even ignoring the mismatch of the elements themselves, Tiedemann fails to disclose, teach or suggest the cooperation between elements that is required by, *e.g.*, the Applicants' Claim 1. (2) Even considering only the multiplicity of elements of the Applicants' Claim 1 that the Examiner acknowledges are not taught in Tiedemann, no motivation is seen for the modifications to Tiedemann proposed by the Examiner. With all due respect, it is extremely unlikely that a skilled person, if unaware of the subject application, would modify the multiplicity of acknowledged elements of Tiedemann in accordance with the particular elements taught in Chheda, yet would not make other possible modifications, so as to realize the invention defined by Claim 1. Each of these reasons, irrespective of the other, amply warrants a conclusion that the Applicants' Claim 1 is nonobvious over a combination of the cited prior art. Accordingly, the Examiner is respectfully requested to withdraw the present grounds for rejection. Details of the reasoning summarized above are set forth below.

#### *Tiedemann Fails To Teach the Required Cooperation of Elements in Claim 1*

The remarks set forth in this subsection exclusively address the cooperation between elements. The Examiner acknowledges that Tiedemann fails to teach a multiplicity of elements required by Claim 1 (see section 7 of the current Office Action, page 5 last full paragraph), but such failures are addressed in subsequent subsections of this response. For purposes of this subsection, it may be assumed *arguendo* that

Tiedemann has been modified as the Examiner suggests would be obvious in view of Chheda. The remarks set forth in this subsection demonstrate that, irrespective of the element differences, Tiedemann fails to teach the cooperation between elements that is required by the Applicants' invention as defined in Claim 1. Claim 1 recites in part (emphasis added):

A method of initiating a reverse link portion of a handoff that has previously been directed between a serving base station and a target base station . . . comprising:

- a) obtaining a first parameter,  $E_b/N_t$ , associated with the serving base station;
- b) obtaining a second parameter,  $E_b/N_t$ , associated with the target base station;
- c) determining if the first parameter is less than or equal to the sum of the second parameter and an offset;
- d) returning to step (a) if the first parameter **is not** less than or equal to the sum of the second parameter and the offset; and
- e) initiating the reverse link portion of the previously directed handoff between the serving and target base stations if the first parameter **is** less than or equal to the sum of the second parameter and the offset,

wherein the reverse link portion of the handoff is distinct from a forward link portion of the handoff and wherein both are comprised in a complete handoff, and wherein the reverse link portion of the handoff includes terminating transmissions from the mobile station to the serving base station and initiating transmission from the mobile station to the target base station.

*In Tiedemann, Every EHDM Is Immediately Followed by Initiation of an RLHO.* According to Tiedemann, a reverse link handoff (RLHO), as defined in Claim 1, is immediately initiated following an extended handoff direction message (EHDM), with no intervening comparison of parameters suggested. Moreover, Tiedemann does not teach initiating RLHOs at any other time. See, e.g., Tiedemann at col. 7 lines 51-56 (emphasis added): "Upon receipt of the EHDM message from base station 300, control processor 520 directs receiver 590 and transmitter 560 to tune to the frequency of the destination. At this point the communication link with the original system has been broken." See also, e.g., FIG. 5 blocks 56 and 58 (or, equivalently, FIG. 7A, blocks 1104 and 1106), which illustrate the mobile invariably tuning to the new frequency following an EHDM, with no intervening decisions. Tiedemann at col. 3 lines 4-5 states "In order for the mobile station to communicate with the destination system, it must lose contact with the old system." Thus, in Tiedemann, the mobile responds to every EHDM by terminating uplink transmission to the serving base station (BS). The act of terminating uplink transmissions to the serving BS is necessarily initiation of an

RLHO as defined in Claim 1. That is because such termination is part of the defined RLHO, so that initiating such termination is necessarily initiating the RLHO unless it has already been initiated. Further, in Tiedemann, processing never follows from an earlier EHDM to a subsequent EHDM without an intervening reconnection to the serving BS, which necessarily aborts any previously initiated RLHO by negating all aspects of it as defined in Claim 1. Finally, no other time for initiating any portion of an RLHO is suggested in Tiedemann. Thus, Tiedemann teaches that every EHDM (step 56 or 1104) shall be followed without relevant intervening processing (*i.e.*, "immediately") by initiation of an RLHO (step 58 or 1106).

*An Underlying Reason Tiedemann Fails to Teach the Required Element Cooperation.* Tiedemann describes certain parameter comparison steps ("possibly relevant comparison steps," represented by steps 60 and/or 68 of FIG. 5, or steps 1108 or 1112 in FIG. 7A) that might be modifiable, as proposed by the Examiner, to read upon step (c) of the Applicants' Claim 1. However, those possibly relevant comparison steps serve only to determine whether a handoff (previously initiated by an EHDM at blocks 58-60) has been successful, or is, instead, to be aborted. Thus, the possibly relevant parameter comparisons occur only after the RLHO is initiated (in block 56 of FIG. 5 or block 1106 of FIG. 7A of Tiedemann). The RLHO cannot be initiated as a result of parameter comparisons that occur subsequent to the initiation of the RLHO. More detailed reasons revealing that Tiedemann fails to teach the cooperation of elements required by Claim 1 are set forth below.

*Cooperation Required by Claim 1:* The Applicants' Claim 1 requires certain cooperation between the steps or elements of Claim 1. The required cooperation includes the following: subsequent to a message directing a handoff (per preamble of Claim 1), a parameter comparison step must be performed (per step c). If the comparison is not satisfied, then processing must return, per step (d), to collect a parameter relevant to the serving BS according to step (a). Otherwise, the comparison step is satisfied, and per step (e) an RLHO must be performed. Tiedemann does not teach comparable cooperation.

*Cooperation Taught by Tiedemann:* The process taught by Tiedemann is described with reference to FIG. 5 of Tiedemann. Only block 60 and/or 68 suggest parameter comparison steps that might read on step (c) of Claim 1. No matter how the parameter comparison step of Tiedemann is defined, however, there is no outcome therefrom that leads, as required by the Applicants' Claim 1, to [obtaining the relevant parameter associated with the BS per step (a)] and [repeating the comparison step per step (c)] without [initiating the

RLHO per exclusive alternative step (e)]. That is because every outcome of blocks 60 or 68 that leads to steps like (a) and (c) also leads to initiating the RLHO as in step (e).

To confirm the foregoing, consider the possible outcomes of blocks 60 and/or 68. Exiting block 60 and entering block 62 fails to satisfy the required cooperation as described above, at least because block 62 does not suggest steps like (a) and (c). Exiting block 60 toward block 68, two paths arguably suggest steps like (a) and (c): a path through blocks 68 and 66, and a path through block 72. Both of these paths merge at block 64, and then proceed through blocks 52-54, 56 and 58, before returning to block 60. A step like (a) of the Applicants' Claim 1 might be performed between steps 52 and 56; and a step like (c) might be performed again in blocks 60 and or 68. But these steps of Tiedemann have now deviated from the cooperation requirements of the Applicants' Claim 1, because the RLHO was performed in Tiedemann's block 58. Thus, the system of Tiedemann does not wait for the results of a further comparison, but proceeds to initiate a further RLHO, regardless of any such comparison.

The processing of Tiedemann is thus contrary to the cooperation required by Claim 1. Stepping back, it is easy to see that Tiedemann's failure to postpone initiation of the RLHO completely negates the purpose of the teaching, as set forth in the Applicants' specification, that a mobile should wait until conditions are correct before completing the reverse link portion of a handoff.

Tiedemann's failure to teach cooperation that satisfies the requirements of the Applicants' Claim 1 is not remedied by the teaching of Chheda. Chheda has almost no connection to handoffs, and certainly makes no suggestions relevant to such cooperation. Thus, even a combination of the cited references fails, at the very least, to teach, disclose or fairly suggest element cooperation as required by the Applicants' Claim 1. Accordingly, even a *prima facie* case of obviousness is not supported, and Claim 1 is accordingly nonobvious over the combined references for at least this reason.

Motivation To Modify Tiedemann as Suggested Does Not Exist

The analysis of this subsection does not rely at all upon the foregoing analysis showing the failure of the cited references to teach the invention defined by the Applicants' Claim 1. Instead, to avoid overlap, the analysis of this subsection addresses only those elements of Claim 1 that the Examiner has acknowledged are not taught or suggested by Tiedemann. Even with the required modifications (*i.e.*, those that would need to

be made to Tiedemann to read on Claim 1) thus restricted, it is respectfully submitted that a skilled person would not be led to modify Tiedemann in view of Chheda to arrive at the invention defined by the Applicants' Claim 1. Support for this submission is set forth below.

The Examiner acknowledges that Tiedemann fails to teach or suggest: Eb/Nt in steps (a) and (b); an offset as in step (c); and (d) initiating and performing the selections and/or adjustments if the first parameter is less than or equal to the sum of the second parameter and the offset (see the last full paragraph of page 5 of the current Office Action). This is a multiplicity of different missing elements, so Tiedemann would need to be substantially modified, in very particular ways, to arrive at the invention defined by Claim 1. But Chheda has only a tangential relationship to handoffs, and that relationship is to soft handoffs, which are not relevant to the hard handoff teaching of Tiedemann.

Even if it is possible to find the acknowledged missing elements in Chheda (which is not conceded), it is extremely unlikely that a skilled person would be led to make precisely those modifications to Tiedemann that would be required to realize the particular invention defined in Claim 1, while yet avoiding other modifications to Tiedemann that would preclude reading on Claim 1. The Examiner has carefully pruned and selected multiple elements of Tiedemann to be modified, and selected a multiplicity of particular elements of Chheda for use in modifying Tiedemann. It is respectfully submitted that no person, viewing the cited references (without knowledge of the Applicants' claimed invention), would ever be led to make the particular combination of changes to Tiedemann that the Examiner asserts is "obvious." As such, it is respectfully submitted that the grounds for rejection represents an egregious case of improper hindsight reasoning.

The Examiner proposes (see page 7, lines 4-7, of the current Office Action) the following motivation for modifying Tiedemann (which teaches handoff techniques) in accordance with teaching of Chheda (which, as the title implies, is directed to reverse link power control using a frame quality metric): "The motivation to combine is to obtain the advantages/benefits taught by Chheda since Chheda states at col. 4, line 1-4 and col. 5, line 15-20 that such modification would optimize the reverse link power control during rapid rate changes and provide a way to adjust/select quality frame during the handoff."

Let us consider the latter citation of col. 5, lines 15-20 of Chheda, which recites (emphasis added):

The Frame Quality Metrics are used in CDMA systems during a soft hand-off between two base stations. Since the base station controller is receiving the same frame from two different base stations, the Frame Quality Metric is used to determine which frame to use: the frame with the highest Frame Quality Metric.

Thus, the Frame Quality Metric is proposed, in Chheda, to determine which of two received frames to use during a soft handoff. However, the handoffs taught in Tiedemann are **hard handoffs** (see, e.g., the Abstract of Tiedemann). As such, the proposed motivation would, in fact, lead a skilled person to avoid Tiedemann because that reference relates to **incompatible hard handoffs**. This is certainly not motivation to combine Chheda with Tiedemann. If anything, it is a teaching away from making such a combination. Moreover, even were the teachings of Chheda compatible with Tiedemann, such a frame quality metric has no bearing on, and can provide no motivation to modify, handoff initiation techniques that are based on signal strength, as required by the Applicants' Claim 1. Far from being motivated, it is thus practically inconceivable that a skilled person, considering Chheda, would modify Tiedemann in a variety of specific ways, including modifying the signal strength parameter (used in Tiedemann for determining whether a handoff was successful) from  $E_c/I_o$  to  $E_b/N_t$  (which is used in Chheda for the essentially unrelated purpose of deriving a frame quality metric), rather than modifying Tiedemann in accordance with other teaching of Chheda. For example, it would be vastly more reasonable, considering Chheda, to modify Tiedemann to employ a frame quality metric, the use of which is promoted in Chheda, for the purpose of, e.g., determining the success of a handoff.

The teaching of Chheda, suggested for use with soft handoffs, is thus incompatible with Tiedemann, which substantially involves only hard handoffs. The specific modifications proposed by the Examiner remain unmotivated and, at the least, extremely unlikely. As such, it is respectfully submitted that the Examiner has failed to satisfy the requirement of reasonable motivation (to combine and modify the cited references as proposed) that is an essential element of a *prima facie* case of obviousness. For at least this reason, the rejection set forth by the Examiner thus fails to render obvious the Applicants' Claim 1.

The remarks set forth above regard the Applicants' Claim 1. However, the Applicants' other independent Claims 12, 21, 22 and 26 each require cooperation between elements that may readily be understood to be inconsistent with the teaching of Tiedemann for reasons similar to those set forth above with respect to Claim 1. Also for reasons similar to those set forth above with regard to Claim 1, no motivation

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exists to modify Tiedemann in view of Chheda to arrive at the particular combination of elements recited by any other of the Applicants' claims. These failures preclude a conclusion that a combination of Chheda and Tiedemann renders obvious any of the Applicants' independent claims. The remainder of the Applicants' claims is also nonobvious, at least by virtue of properly depending from one of the independent claims. Accordingly, it is respectfully submitted, therefore, that each of the claims, as presently pending, is nonobvious and properly allowable over a combination of the cited references.

**Conclusion**

In view of the foregoing remarks and amendments, it is respectfully submitted that each claim, as presently pending in the subject application, is in condition for immediate allowance. As such, the Examiner is respectfully requested to withdraw each of his grounds for rejection, and to promptly issue a Notice of Allowance in respect of all pending claims.

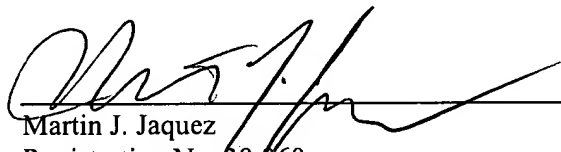
The Commissioner is authorized to construe this paper as including a petition to extend the period for response by the number of months necessary to make this paper timely filed. Fees or deficiencies required to cause the response to be complete and timely filed may be charged, and any overpayments should be credited, to our Deposit Account No. **50-0490**.

Respectfully submitted,

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**JAQUEZ & ASSOCIATES**  
6265 Greenwich Drive  
Suite 100 D  
San Diego, California 92122  
(858) 453-2004 (voice)  
(858) 453-1280 (fax)  
E-mail:  
[barbara@jaquez-associates.com](mailto:barbara@jaquez-associates.com);  
[marty@jaquez-associates.com](mailto:marty@jaquez-associates.com)

  
Martin J. Jaquez  
Registration No. 68,060